Conclusion: This study shows that both SCT and SCS have substantial beneficial effects on HRQoL. By identifying patients socially isolated and by ensuring social integration of patients, future management of OA could lead to better health outcomes, especially in mental dimensions which have been consistently found to be impaired in OA.

PA6

RELATIONSHIP BETWEEN OARSI RESPONSE CRITERIA AND PATIENTS GLOBAL ASSESSMENT OF TREATMENT EFFICACY IN KNEE OSTEOARTHRITIS (OA)

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Aim: The aim of this study was to assess the relationship between a recently published set of response criteria in knee OA and patients' global evaluation of efficacy.

Methods: In knee OA patients (N=253) treated with Hylan G-F 20 viscosupplementation, response rates according to patients' evaluation of efficacy (a "good" or "satisfactory" efficacy defining "global responder" patients) were compared with OARSI response rates. OARSI knee intra-articular specific drug -proposition A and B- were studied (defining "OARSI A" or "OARSI B" responder patients). In these three populations of responders we described the absolute and relative mean changes over 9 months in WOMAC pain, WOMAC function and global assessment (patient's disease activity on a VAS).

Results: OARSI A, OARSI B and global response rates were respectively 62.8%, 61.7% and 71.7%. Out of global responders, 76.8% were OARSI A and 75.7% OARSI B responders. There were 87.5% and 87.9% global responders in OARSI A and B responders.

Mean changes in the three responder populations were given below:

	OARSI A	OARSI B	Global responders
Pain change			
- absolute (mm)	- 35.6 + 14.8	- 36.0 ± 14.7	- 29.6 ± 18.8
- relative (%)	- 70.3 ± 20.6	- 70.6 ± 20.8	- 60.3 ± 32.3
Function change			
- absolute (mm)	-28.4 ± 15.7	-29.0 ± 15.4	-23.3 ± 18.7
- relative (%)	-62.7 ± 26.5	-63.6 ± 25.4	-51.1 ± 40.6
Global assessment change			
- absolute (mm)	- 41.7 ± 21.4	-41.9 ± 21.3	-35.6 ± 24.4
- relative (%)	- 66.7 ± 30.0	- 67.0 ± 29.9	- 58.2 ± 39.5

Conclusions: Higher mean changes in pain, function and global assessment are required to fulfill OARSI response criteria compared to patients' global response. Mean changes and response rates for knee intra-articular specific drug were similar whatever proposition A or B applied.

PA7

BONE EDEMA: DISSONANCE BETWEEN PAIN AND X-RAY OSTEOARTHRITIS

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Bone marrow edema (BME) by magnetic resonance imaging (MRI) is a prominent finding of several pain syndromes. We hypothesized that subchondral BME coupled with information about the nature and location of focal cartilage defects would explain the conundrum of self-reported joint pain in the apparent absence of x-ray-defined knee osteoarthritis (OAK). A total of 120 women grouped by self-reported pain and x-ray status (30 per group) were identified from the Southeast Michigan Arthritis cohort of black and white pre- and perimenopausal women (n=1053), aged 33-55, with weight bearing x-rays of both knees, self-reported knee joint pain and risk factors for OA. Definition of OAK was a Kellgren-Lawrence score of two or greater. Participants were evaluated using a 1.5 T (GE Sigma) scanner equipped with a knee surface coil. Sequences involved fast spin echo proton density with fat saturation sequences. Scoring for BME and cartilage defects were undertaken by two radiologists, blinded as to the x-ray OAK status and to group assignment.

Group n=30/grp	Pain	x-ray OAK	No BME	No cartilage defect
1	No	No	50%	17%
2	No	Yes	13%	0%
3	Yes	No	47%	20%
4	Yes	Yes	10%	0%

Women with evidence of BME were 7 times more likely (95% CI=2.7,17.7) to be identified by x-ray as having OAK whereas the Odds ratio for BME and pain was 1.1 (95% CI=0.5-2.5).The summary BME in the worst knee did not account for self report of pain or account for the pain/x-ray OA incongruity in groups 2 and 3. BME is likely due to mild cellular injury, probably induced by micro-trauma. However, using a global measure of BME did not explain the dissonance between report of pain and x-ray findings. Further evaluation will be required to determine if comparison by compartment or severity is more explanatory of the dissonance.

PA8

THE AUSCAN OSTEOARTHRITIS (OA) HAND INDEX: USE IN THE EVALUATION OF HAND OA PATIENTS IN THE "ADVANTAGE" TRIAL

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Method: A cohort of patients with OA of the hand was evaluated in a planned subgroup analysis, using AUSCAN OA Hand Index in a trial assessing the gastrointestinal (GI) tolerability of rofecoxib (RO) and naproxen (NA) in the treatment of patients with knee, hip, hand, or spine OA over 12 weeks. Eligible patients were randomly assigned to treatment with RO 25 mg qd or NA 500 mg bid. GI tolerability, as defined by the incidence of discontinuations due to GI adverse experiences (AE), was the primary endpoint. OA efficacy was assessed by the Patient Global Assessment of Disease Status (PGADS), the AUSCAN OA Hand Index LK3.0S, and discontinuations due to lack of efficacy (LOE).

Results: 5557 patients received RO (n=2785) or NA (n=2772). Baseline characteristics were similar between treatment groups. 16.4% of patients (n=447 and 463; RO and NA respectively) patients identified the hand as their primary source of OA symptoms and were required to complete the AUSCAN questionnaire, a categorical scale (Pain/Difficulty: 1=None to 5=Extreme) to assess three domains of hand OA (pain, stiffness, and physical function, comprised of 5, 1 and 9 questions, respectively). Patients were asked to select one pain item and one physical function item which they most hoped would improve. Also, all patients completed the PGADS, a 100 mm VAS (0=very well; 100=very poor).

	Rotecoxib	Naproxen	P value
PGADS change (mm) Hand*	- 6.94	- 6.41	N S
AUSCAN Pain Domain*	- 0.28	- 0.31	N S
AUSCAN Stiffness Domain*	- 0.39	- 0.33	N S
AUSCAN Function Domain*	- 0.37	- 0.38	N S
Discontinuations due to LOF	6.4%	6.3%	N S
GI AE Discontinuations	5.9%	8.1%	0.005

*Reported as mean change from baseline

A preponderance of patients selected "When gripping objects with your hands" as the most important pain item (40%); whereas "Opening a new jar" was the most important physical function item (29%).

Conclusion: In OA patients treated for 3 months, RO 25 mg qd exhibited superior GI tolerability compared with NA 500 mg bid. In patients with hand OA, RO and NA provided similar efficacy whether assessed by PGADS or by the AUSCAN Hand Index.

PA9

OSTEOARTHRITIS OF THE ELBOW: AN ASYMPTOMATIC JOINT?

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Aims: A review of the literature has revealed little clinical interest in OA of the elbow with its occurrence being reported as uncommon. However, clinical studies investigate exclusively symptomatic joints and asymptomatic pathological involvement of joints will go unreported. Skeletal material provides an opportunity for studying the pathology of OA more fully. Eburnation and osteophytes, both pathologies associated with OA, are easily seen on skeletal remains; we have therefore aimed to estimate the prevalence of OA pathologies of the elbow using a skeletal collection.

Methods: 563 skeletons, excavated from one site in the UK, were used in this study. The radio-humeral (RHJ) and ulno-humeral (UHJ) joints were examined by one, experienced palaeopathologist. The presence of eburnation and osteophytes were noted. Standard anthropological techniques were used to age (<45 years or >45 years) and sex the skeletons.

Results: 48% of the sample were female and 37% were estimated to be over 45 years at death. The prevalence of eburnation and osteophytes anywhere in the elbow was 4.2% and 16.5% respectively. Four individuals (17.4%) with eburnation did not have osteophytes. Eburnation was significantly more common in the RHJ than the UHJ (3.7% vs 0.9%; McNemar's ω^2 10.7. p<0.00l) yet osteophytes were significantly more common in the UHJ than the RHJ (13.6% vs 9.3%; McNemar's ω^2 =10.4, p<0.00 1). Osteophytes anywhere in the elbow were significantly more common in the older age group than younger (28.2% vs 9.7%, ω^2 = 24.5, p<0.00l) and in males than females (22.7% vs 9.8%, ω^2 = 16.l, p<0.001). Eburnation of the elbow was significantly more prevalent in the older age group than younger (1.5% vs 8.3%, ω^2 = 11.9, p<0.00l) and more prevalent in males than females but not significantly so (5.4% vs 2.7%, ω^2 = 2.4, p=0. 120).

Conclusion: The prevalences estimated here are comparable with those of the hip and knee from other skeletal studies. These data, therefore, raise an important issue in our understanding of OA: the elbow is commonly affected pathologically - but by what mechanism is it spared symptomatically?

PA10

IN VITRO CHONDROPROTECTIVE ACTIVITY OF A NOVEL CLASS OF ANTHRAQUINONES

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Some anthraquinones (AQ) are used for the treatment of osteoarthritis (OA). We have synthesized some AQ from the parent compound anthraquinone 2,6-disulfonic acid (GR373). We have investigated the activity of anthraquinone 2,6-disulfonic acid (GR373); N,N-diethyl anthraquinone 2,6-disulfonamide(GR375) and 2,6-diphenetidin anthraquinone disulfonamide(GR377) on cathepsin B(cat-B), cathepsin L (cat-L), cyclooxygenase 1 (COX1) and 2 (COX2), nitric oxide synthase (NOS) activities and on proteoglycan(PG)-release in cultured articular cartilage.
Inhibition studies on cat-B and cat-L were carried out using various natural and synthetic substrates. COX1 and COX2 activities were determined in human blood after coagulation or after 24 h of LPS stimulation measuring TXB2 and PGE2 concentrations respectively. Human inducible NOS activity was measured by the formation of citrulline from labeled arginine.
Pieces of bovine articular cartilage were cultured in the presence or in the absence of IL-1β. PG content in both the medium and cartilage was assayed at various times. All the above tests have been carried out in the absence and in the presence of various concentrations of the AQ under investigation.
The three tested AQ inhibited in a dose-dependent way both human cat-B and cat-L at micromolar concentrations. However the introduction of the above reported chemical groups on the parent compound GR373 greatly increases the inhibitory activity. The rank order of inhibition on both enzymes is GR377>GR375>GR373. Kinetic studies show that the inhibition is of the uncompetitive type. The tested AQ have no effect on COX1 while they inhibit COX2 and NOS at micromolar concentrations. IL-lb-induced PG release is significantly decreased by the tested AQ at micromolar concentrations.
These results suggest that this novel class of AQ and in particular the more active GR377 and *GR375* have potential applications in the treatment of OA since they may interfere with OA processes at different levels.

PA11

A RANDOMISED, DOUBLE-BLIND, COMPARATOR CLINICAL STUDY OF THE EFFICACY OF SODIUM PENTOSAN POLYSULFATE INJECTION AND CARPROFEN CAPSULES IN ARTHRITIC DOGS

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Aim and Methods: This study compared the efficacy and safety of two osteoarthritis treatments in a randomized, double-blind design utilizing skeletally mature dogs with osteoarthritis. The treatments were Cartrophen Vet (CVI, 100mg pentosan polysulfate sodium/ml, 3mg/kg body weight, 4 x weekly injections sc; n = *53)* and carprofen (NSAID, 4mg/kg body weight, 28 x daily capsules orally, n = 51) with appropriate placebos. Dogs were assessed by clinical examination at baseline and at Weeks 2, 3, 4 and 8.

Results: Analysis of the primary outcomes of lameness, pain and orthopaedic score, revealed that there was statistically significant improvement following treatment with CVI compared to treatment with NSAID at Week 8 (4 weeks after treatment had ceased) in orthopaedic score (p=0.013). Improvement following NSAID treatment relative to CVI treatment was statistically significant for lameness at Week 2 (p.<0.001), pain at Week 2 (p=0.023) and Week 3 (p<0.001) and orthopaedic score at Week 2 (p=0.04l). The statistically significant difference at Week 2 for lameness in favor of NSAID was diminished by Week 8 with CVI the more favorable treatment (p=0.129). According to the primary outcome veterinarians' impression of the overall response to treatment, both CVI and NSAID treatments were highly effective and there was no statistically significant difference between the two drugs (p=0.909). There was, however, a slight advantage in favor of CVI in the estimate of the magnitude of the effect. Analysis of the activity of each treatment compared with the corresponding baseline value demonstrated that both CVI and NSAID were very effective treatments with statistically significant improvements in all primary outcome parameters (lameness, pain and orthopaedic score) at all weeks (p<0.05). The efficacy of each treatment was also demonstrated for secondary outcomes with significant improvements in gait stiffness and get up and go at all weeks and gait